

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit: Not Yet Assigned	:	
Examiner: Not Yet Assigned	:	
	:	IMPROVEMENTS IN ATOM OR GROUP
In re Application of	:	TRANSFER RADICAL POLYMERIZATION
Matyjaszewski et al.	:	
	:	
Serial No.: Not Yet Assigned	:	
	:	
Filed: Concurrently Herewith	:	

INFORMATION DISCLOSURE STATEMENT

February 18, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

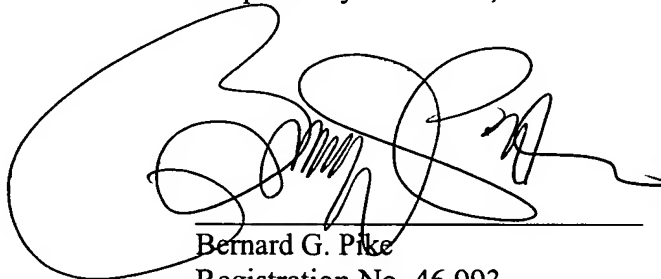
Applicants, in accordance with the duty of disclosure pursuant to 37 C.F.R. § 1.56, hereby advise the United States Patent and Trademark Office of the references listed on the accompanying Form PTO/SB/08 *Information Disclosure Statement by Applicant* (substitute for Form 1449A/PTO). A copy of each of the cited references is herewith enclosed.

Applicants note that although the cited references may be relevant to the examination of the above-referenced application, under 37 C.F.R. § 1.97(h), the filing of this *Information Disclosure Statement by Applicant* "shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in § 1.56(b)."

Applicants further note that the filing of this *Information Disclosure Statement* by *Applicant* is not an admission that the references cited herein constitute prior art under 35 U.S.C. §§ 102-103 with respect to the captioned application.

Pursuant to 37 C.F.R. § 1.97(b)(3), Applicants submit that no fee is necessary for consideration of this *Information Disclosure Statement* by *Applicant*. Nevertheless, the Commissioner is hereby authorized to charge any additionally required fees deemed necessary for consideration of this *Information Disclosure Statement* by *Applicant* to Account No. 11-1110.

Respectfully submitted,



Bernard G. Pike  
Registration No. 46,993  
Customer No. 26,285

KIRKPATRICK & LOCKHART LLP  
Henry W. Oliver Building  
535 Smithfield Street  
Pittsburgh, Pennsylvania 15222-2312

Telephone: (412) 355-6292  
Facsimile: (412) 355-6501  
e-mail: [bpik@kl.com](mailto:bpik@kl.com)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Matyjaszewski
				Art Unit	Not Yet Assigned
Examiner Name					
Sheet	1	of	5	Attorney Docket Number	00169DIV3CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		3,183,217	05/11/1965	Semiuk, et al.	
		3,959,225	05/25/1976	Kuntz	
		4,007,165	02/08/1977	MacLeay, et al.	
		4,374,751	02/22/1983	Dudgeon	
		4,728,706	03/01/1988	Farnham, et al.	
		4,940,648	07/10/1990	Geiger	
		4,954,416	09/04/1990	Wright, et al.	
		5,089,135	02/18/1992	Yoneyama, et al.	
		5,169,914	12/08/1992	Kaszas, et al.	
		5,312,871	05/17/1994	Mardare, et al.	
		5,405,913	04/11/1995	Harwood, et al.	
		5,451,647	09/19/1995	Faust, et al.	
		5,470,928	11/28/1995	Harwood, et al.	
		5,510,307	04/23/1996	Narayanan, et al.	
		5,763,548	06/09/1998	Matyjaszewski, et al.	
		5,789,487	08/04/1998	Matyjaszewski, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 0341012	11/08/1989			
		EP 0870809	10/14/1998			
		WO 00/56795	09/28/2000			
		WO 98/01480	01/15/1998			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Matyjaszewski
				Art Unit	Not Yet Assigned
				Examiner Name	
Sheet	2	of	5	Attorney Docket Number	00163DIV3CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		5,807,937	09/15/1998	Matyjaszewski, et al.	
		5,910,549	06/08/1999	Matyjaszewski, et al.	
		5,945,491	08/31/1999	Matyjaszewski, et al.	
		6,111,022	08/29/2000	Matyjaszewski, et al.	
		6,121,371	09/19/2000	Matyjaszewski, et al.	
		6,124,411	09/26/2000	Matyjaszewski, et al.	
		6,162,882	12/19/2000	Matyjaszewski, et al.	
		6,288,186	09/11/2001	Matyjaszewski, et al.	
		6,407,187	06/18/2002	Matyjaszewski, et al.	
		6,512,060	01/28/2003	Matyjaszewski, et al.	
		6,538,091	03/25/2003	Matyjaszewski, et al.	
		6,541,580	04/01/2003	Matyjaszewski, et al.	
		6,624,262	09/23/2003	Matyjaszewski, et al.	
		6,624,263	09/23/2003	Matyjaszewski, et al.	
		6,627,314	09/30/2003	Matyjaszewski, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Matyjaszewski
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	3	of	5	Attorney Docket Number	00163DIV3CON

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		United States Patent application No. 10/269,556 filed October 11, 2002. Attorney Docket No. 010686	
		United States Patent application No. 09/359,359 filed July 23, 1999. Attorney Docket No. 00169DIV3	
		United States Patent application No. 09/534,827 filed March 23, 2000 Attorney Docket No. 00093	
		United States Patent application No. 09/972,056 filed October 5, 2001. Attorney Docket No. 00819	
		United States Patent application No. 10/034,908 filed December 21, 2001. Attorney Docket No. 001153	
		United States Patent application No. 10/118,519 filed April 6, 2002. Attorney Docket No. 010314	
		United States Patent application No. 10/271,025 filed October 15, 2002. Attorney Docket No. 010687	
		United States Patent application No. 10/289,545 filed November 7, 2002. Attorney Docket No. 00163DIVCON	
		CARTER ET AL., "Polyimide Nanofoams From Phase-Separated Block Copolymers", Electrochemical Society Proceedings, 1997, pp. 32-43, Vol. 97, No. 8, Electrochemical Society, Pennington, NJ, US, ,	
		CHEN ET AL., "Pyrolytic Behavior and In-Situ Paramagnetism of Star-like C60(CH3)x(PAN)x copolymers", European Polymer Journal, March 1, 1998, pp. 421-429, Vol. 34, No. 3-4, Elsevier Science Ltd., Oxford, GB,	
		DOROTA GRESZTA ET AL., "Gradient Copolymers of Styrene and Acrylonitrile Via Atom Transfer Radical Polymerization", Polymer Preprints, April 1997, pages 709-710, Vol 38(1).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Matyjaszewski
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	4	of	5	Attorney Docket Number	00163DIV3CON

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		GROMADA, J.; MATYJASZEWSKI, K. <i>Macromolecules</i> 2001, 34, 7664-7671.	
		JIN-SHAN WANG AND KRZYSZTOF MATYJASZEWSKI, "Controlled/Living" Radical Polymerization. Atom Transfer Radical Polymerization in the Presence of Transition-Metal Complexes". Reprinted from the <i>Journal of the American Chemical Society</i> , 1995, Vol. 117, No. 20.	
		JIN-SHAN WANG AND KRZYSZTOF MATYJASZEWSKI, "Controlled/Living" Radical Polymerization. Halogen Atom Transfer Radical Polymerization Promoted by a Cu(I)/Cu(II) Redox Process". Reprinted from <i>Macromolecules</i> , 1995, 28. Department of Chemistry, Carnegie Mellon University. Received May 2, 1995; Revised Manuscript Received August 14, 1995.	
		KRZYSZTOF MATYJASZEWSKI, MINGLI WEI, JIANHUI XIA AND NANCY E. MCDERMOTT, "Controlled/Living" Radical Polymerization of Styrene and Methyl Methacrylate Catalyzed by Iron Complexes <sup>1</sup> , <i>Macromolecules</i> , Vol. 30, No. 26, 1997.	
		KRZYSZTOF MATYJASZEWSKI, SIMION COCA, SCOTT G. GAYNOR, MINGLI WEI AND BRIAN E. WOODWORTH, "Zerovalent Metals in Controlled/Living" Radical Polymerization", <i>Macromolecules</i> , 1997, pp. 7348-7350, Vol. 30, No. 23.	
		MATYJASZEWSKI, K.; Editor Controlled/Living Radical Polymerization. Progress in ATRP, NMP, and RAFT. In: <i>ACS Symp. Ser.</i> , 2000; 768, 2000., Chapter 19 "Reverse Atom Transfer Radical Polymerization Using AIBN or BPO as Initiator" pp. 263-275	
		MATYJASZEWSKI, K.; XIA, J. <i>Chem. Rev.</i> 2001, 101, 2921-2990.	
		MINGLI WEI, JIANHUI XIA, NANCY E. MCDERMOTT AND KRZYSZTOF MATYJASZEWSKI, "Atom Transfer Radical Polymerization of Styrene in the Presence of Iron Complexes", <i>Polymer Preprints</i> , 38(2), 231 (1997), Department of Chemistry, Carnegie Mellon University.	
		QIU, J.; MATYJASZEWSKI, K; THOUIN, L.; AMATORE, C. <i>MACROMOL. Chem. Phys.</i> 2000, 201, 1625-1631.	
		QUEFFELEC, J.; GAYNOR, S.G.; MATYJASZEWSKI, K. <i>Macromolecules</i> 2000, 33, 8629-8639.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Matyjaszewski
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	5	of	5	Attorney Docket Number	00163DIV3CON

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		SIMION COCA, CHRISTINA B. JASIECZEK, KATHRYN L. BEERS AND KRZYSZTOF MATYJASZEWSKI, "Polymerization of Acrylates by Atom Transfer Radical Polymerization. Homopolymerization of 2-Hydroxyethyl Acrylate", Journal of Polymer Science, 1998, pp.1417-1424, Vol. 36, Part A: Polymer Chemistry.	
		SEONG MU JO ET AL, "Polyacrylonitrile with Low Polydispersities by Atom Transfer Radical Polymerization", Polymer Preprints, Vol. 38(1) April 1997, pages 697-698	
		SEONG MU JO ET AL, "Effects of Various Copper Salts and Additives on Polymerization of Acrylonitrile by Atom Transfer Radical Polymerization", Polymer Preprints, Vol. 38(1) April 1997, pages 699-700	
		TAKEICHI ET AL., "Preparation of Porous Carbon Films by the Pyrolysis of Poly(Urethane-imide) Films and Their Pore Characteristics", Carbon, February 2001, pp. 257-265, Vol. 39, No. 2,	
		TIMOTHY E. PATTEN AND KRZYSZTOF MATYJASZEWSKI, Atom Transfer Radical Polymerization and the Synthesis of Polymeric Materials, Advanced Materials 1998 10 No. 12, 901-915.	
		T.E. PATTEN ET AL., "Polymers with very Low Polydispersities from Atom Transfer Radical Polymerization", Science, Vol. 272, pp. 866-868, May 10, 1996.	
		U. SCHUBERT ET AL., "Design of Effective Systems for Controlled Radical Polymerization of Styrene: Application of 4,4'-Dimethyl and 5,5'-Dimethyl 2,2'-Bipyridine Copper(ii) Complexes", Macromol. Rapid Commun., Vol. 20, No. 6, pp. 351-355, 1999.	
		WANG ET AL., "Living"/Controlled Radical Polymerization, Transition-Metal-Catalyzed Atom Transfer Radical Polymerization in the Presence of a Conventional Radical Initiator", Macromolecules, 1995, Vol. 28, pp. 7572-7573.	
		WANG, J.-S.; MATYJASZEWSKI, K., J. Am. Chem. Soc. 1995, 117, 5614-5615.	
		XIA J. AND MATYJASZEWSKI K., "Controlled/ "Living" Radical Polymerization. Homogenous Reverse Atom Transfer Radical Polymerization Using AIBN as the Initiator," Macromolecules, 1997, pp. 7692-7696, vol. 30.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.